United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Veterinary
Services

Environmental Monitoring by Feedlots

National Animal Health Monitoring System

Feedlot operators are responding to increased environmental concerns by implementing or changing monitoring systems for water and air quality.

In the fall of 1994, the USDA's National Animal Health Monitoring System (NAHMS) collected data by telephone from 913 feedlots with less than 1,000 head capacity (small) and visited 498 feedlots with 1,000 or more head capacity (large) from the 13 primary cattle feeding states.[1] Cattle inventory in these 13 states was approximately 85 percent of the national inventory as of January 1, 1994, and the 13 states fed in excess of 85 percent of the total cattle fed for slaughter in the United States. Large-capacity feedlots comprised 4 percent of feedlots, but accounted for 83.3 percent of total feedlot inventory for the 13 states as of January 1, 1994. The Cattle on Feed Evaluation (COFE) interviews addressed operation management and animal health.

At the time of the study, 44.9 percent of large-capacity producers reported testing ground water, while only 10.5 percent of small-capacity producers reported doing the same. Over 10.0 percent of the small-capacity producers reported development or changes to an existing groundwater monitoring program on their operation in the previous 5 years (Figure 1), while 38.4 percent of the large-capacity producers said the same. About 42.0 percent of large-capacity producers indicated that they had developed or changed their surface water monitoring program in the same time frame. Over 14 percent of large-capacity producers instituted or changed their air quality monitoring program in the past 5 years.

Feedlot personnel are on the front lines dealing with situations that may result in environmental impacts. Over 35.0 percent of large capacity feedlots reported that they had changed or developed a training program related to environmental concerns in their organization.

Figure 1

Percent of Beef Feedlots that Instituted or Changed Environmental Programs in the Past 5 Years by Feedlot Capacity

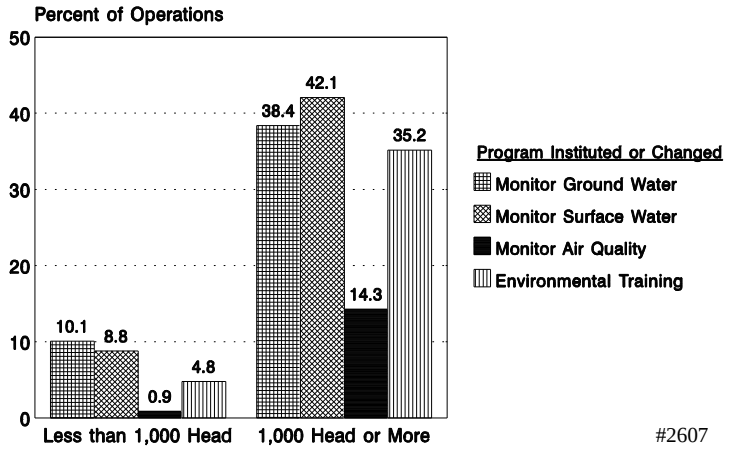

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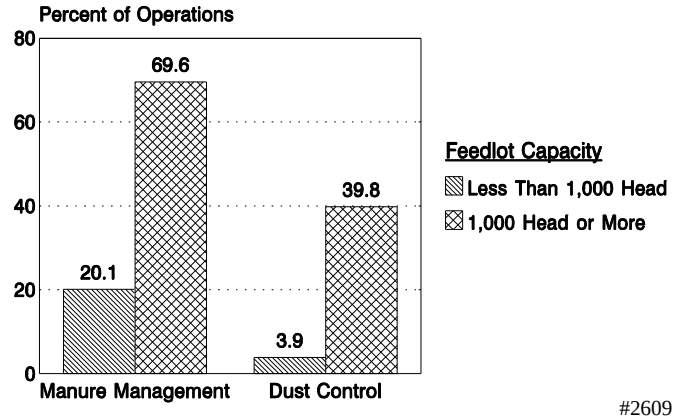
Figure 2

Beef Feedlots That Instituted or Changed Manure Management or Dust Control Programs in the Past 5 Years by Feedlot Capacity



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Feedlots have been recognized as a potential nonpoint source of pollution. Concerns over environmental issues or regulations caused 20.1 percent of small-capacity producers and 69.6 percent of large-capacity producers to develop or change a manure management program in the past 5 years (Figure 2). Nearly 40.0 percent of large-capacity producers

1 Arizona, California, Colorado, Idaho, Illinois, Iowa, Kansas, Minnesota, Nebraska, Oklahoma, South Dakota, Texas, and Washington.

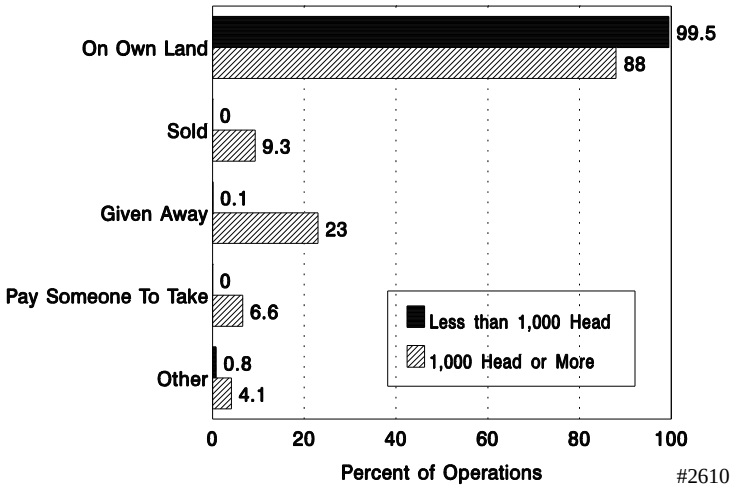
developed or changed a dust control program due to environmental concerns or regulations.

Manure disposal can be a critical issue for some feedlots. There is increasing concern about manure application rates and potential contamination of surface and ground waters. Most producers disposed of manure on land owned or operated by the feedlot (Figure 3). This method accounted for 42.9 percent of the manure. For those feedlots that reported disposal of manure on land owned by the feedlot, 49.4 percent overall reported testing the nutrient content of the soil (48.6 percent small capacity, 69.1 percent large capacity). This practice can be useful in customizing manure application rates to the needs of the soil. Testing nutrient content of manure was reported by 38.0 percent of large-capacity producers.

In some areas of the country, urban growth is encroaching on historical cattle-feeding areas. When this occurs, dust control can become an issue. Dust control can also be an issue for animal health, where increased dust may predispose to increased respiratory problems. Just over 80 percent of large-capacity feedlots used at least one of the three forms of dust control shown in Figure 4. The method most commonly used was mechanical scraper.

Figure 3

Methods of Waste Disposal on Beef Feedlots* by Herd Capacity



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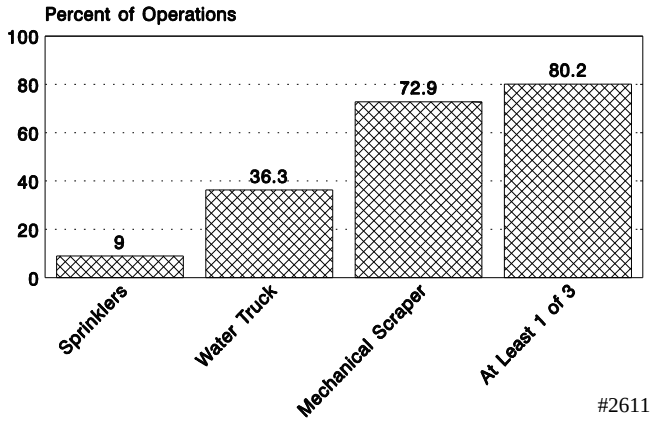
*Producers may have used more than one method.

Figure 4

Dust Control Practices on Beef Feedlots of 1,000 Head or More Capacity



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NAHMS collaborators included the National Agricultural Statistics Service (USDA), State and Federal Veterinary Medical Officers, and the National Veterinary Services Laboratories (USDA:APHIS:VS).

Other COFE information is available on the following topics: Branding, Mexican-origin cattle, and quality assurance. Study results on beef cow/calf, dairy cattle, and swine are also available. For more information contact:

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